

REMARKS

Claims 1-9 are present in this application. Claim 1 is an independent claim.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

§ 102(b) Rejection – Ishikawa

Claims 1-6 and 9 have been rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-052140 (Ishikawa). Applicant respectfully traverses this rejection.

Summary of Claimed Subject Matter

The present invention pertains to a liquid crystal display device for a large size display. The present invention solves problems with conventional liquid crystal displays, including a display having a frame of a die-cast chassis structure having a hollow frame shape. Applicant has determined that problems with the conventional liquid crystal display devices include low reliability of securing of the backlight and reflection plate since the lower plate is hollow, and lack of sufficient rigidity because of no outer frame.

The present invention achieves reduction in weight as well as an increase in rigidity in a display device. In an embodiment of the present invention, a die-cast frame is integrally formed to include an outer frame 1c formed with projecting pieces 1a, and including linkage pieces 1b. The die-cast frame is light weight because it is cast as a hollow structure and has improved rigidity due to an integrally formed die-cast metal frame having projecting pieces.

In particular, claim 1 covers a direct backlight-type liquid crystal display device (e.g., Figs. 3-6), including a liquid crystal panel (8), lamps (3) which are disposed in the rear of the liquid crystal panel, a reflection plate (2) which is disposed in the rear of the lamps, and a die-cast frame (1) for supporting the reflection plate,

wherein the die-cast frame is an integral structure comprising outer frame pieces (1c) having projecting pieces (1a) which project toward the liquid crystal panel and at least one or more linkage pieces (1b) which are provided for linking the longer sides of the outer frame pieces to each other;

an aperture space which is enclosed by the outer frame pieces and the linkage pieces is formed; and

a space for accommodating the lamps therein is formed by the projecting pieces.

Ishikawa

The Office Action alleges that Fig. 5 of Ishikawa discloses a direct backlight-type liquid crystal display device including a reflection plate disposed in the rear of lamps, and a die-cast frame supporting the reflection plate. Applicant submits that the basic structure disclosed in Ishikawa is completely different from the present claimed invention.

Unlike a backlight-type liquid crystal device of the present invention, Ishikawa discloses a side light face light display device (i.e., indirect). For example, a main problem addressed by Ishikawa is optical leakage due to inefficient reflection of the side light.

Unlike the reflection plate that is disposed in the rear of the lamps of the present invention, Ishikawa discloses a reflective sheet 4 disposed at the outgoing side of the light source.

As disclosed in Applicant's specification, Applicant has determined that problems occur when display devices are made from metal plate (e.g. potential breakage, as discussed with respect to Figs. 1 and 2). Ishikawa discloses a light guide plate 2 formed by injection molding of acrylic. However, Ishikawa also discloses that materials for the frame can include an aluminum plate (para. 0048).

Differences over Ishikawa

Thus, Applicant submits that Ishikawa fails to teach or suggest at least the claimed “direct backlight-type liquid crystal display device, including a liquid crystal panel, a plurality of lamps which are disposed in the rear of the liquid crystal panel and arranged in parallel to the liquid crystal panel, and a reflection plate which is disposed opposite to the liquid crystal panel of the lamps,” as recited in claim 1.

Furthermore, Applicant submits that Ishikawa fails to teach or suggest a liquid crystal display device including a die-cast frame for mounting the reflection plate. Instead, Ishikawa discloses a backside frame 41 which is formed by injection molding of white-colored resin capable of efficiently reflecting illumination light (para. 0041). Alternatively, Ishikawa discloses that the backside frame may be formed from an aluminum plate.

Furthermore, the backside frame 41 accommodates optical members such as reflection sheet 4. Applicant submits that backside frame 41 is not disclosed for mounting a reflection plate, as in the die-cast frame of the display device of the present invention.

For at least these reasons, Applicant submits that Ishikawa fails to teach each and every claimed element of claim 1, as well as respective dependent claims.

Further with respect to claim 2, Ishikawa merely discloses a reflective sheet 4 formed on backside frame 41 (para. 0043). Applicant submits that Ishikawa fails to disclose linkage pieces provided with mount fixing portions for mounting the reflection plate.

Further with respect to claim 4, Applicant submits that Ishikawa fails to disclose frame pieces provided with through-holes through which lamp leads are passed.

Further with respect to claims 5 and 6, Applicant submits that Ishikawa fails to disclose linkage pieces provided on the rear side with mount fixing portions and holding portions associated with an electronic circuit board and/or power supply.

Further with respect to claim 9, Applicant submits that Ishikawa fails to disclose a die-cast frame made of a lightweight metal. The aluminum mentioned in paragraph 0048 of Ishikawa is an aluminum plate.

For at least these reasons, Applicant submits that Ishikawa fails to teach each and every claimed element. Therefore, Ishikawa fails to establish *prima facie* anticipation of claims 1-6 and 9. Accordingly, Applicants request that the rejection be reconsidered and withdrawn.

§ 103(a) Rejections

Claim 7 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa in view of U.S. Patent 6,476,883 (Salimes).

Claim 8 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa in view of U.S. Application Publication 20030090864 (Kuo).

Applicant submits that neither Salimes nor Kuo make up for the above stated deficiencies in Ishikawa. Thus, at least for the reasons above for claim 1, Applicant submits that the rejections fail to establish *prima facie* obviousness. Applicant requests that the rejections be reconsidered and withdrawn.

Conclusion

In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact **Robert Downs** Reg. No. 48,222 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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